

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 05518807W001	FOR FURTHER ACTION <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No. PCT/JP2005/012270	International filing date (day/month/year) 27/06/2005	(Earliest) Priority Date (day/month/year) 28/06/2004
Applicant CANON KABUSHIKI KAISHA		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box II).

3. ☐ Unity of invention is lacking (see Box III).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 1F

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/012270

Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

A method for manufacturing a minute structure comprises a step of forming a first ionizing radiation decomposing type positive type resist layer to be sensitized by an ionizing radiation of a first wavelength range, a step of forming a second ionizing radiation decomposing type positive type resist layer to be sensitized by an ionizing radiation of a second wavelength range on the first positive type photosensitive material layer, a step of forming a desired pattern in the above-mentioned second positive type photosensitive material layer as the upper layer by decomposing reaction without decomposing reaction of the above-mentioned first positive type photosensitive material layer, development using a developing solution, and then, a step of forming a desired pattern in the above-mentioned first positive type photosensitive material layer as the lower layer by decomposing reaction of a predetermined area development, whereby a pattern of a convex shape is manufactured in the substrate.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2005/012270

A. CLASSIFICATION OF SUBJECT MATTER
 603F7/095 B41J2/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 603F B41J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 380 422 A (CANON KABUSHIKI KAISHA) 14 January 2004 (2004-01-14)	1-5,8-11
Y	paragraphs '0058! - '0061!, '0080! - '0085!; claims 1,4; figures 6A,6B,7A,7B,8A,8B	6,7
X	EP 1 380 425 A (CANON KABUSHIKI KAISHA) 14 January 2004 (2004-01-14)	1-5,8-11
Y	paragraphs '0028!, '0076!, '0083!; claims 1,2,12,13,17,20; figure 9A	6,7
A	EP 0 491 560 A (CANON KABUSHIKI KAISHA) 24 June 1992 (1992-06-24) page 9, lines 7-11,35-51; claims 1,2,7; figures 5-7 page 13, lines 51-53 page 13, line 58 - page 14, line 7 ----- -/-	1-11

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *A* document member of the same patent family

Date of the actual completion of the international search

26 January 2006

Date of mailing of the international search report

02/02/2006

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax (+31-70) 340-3016

Authorized officer

Thiele, N

INTERNATIONAL SEARCH REPORT

International Application No
PCT/JP2005/012270

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 734 866 A (CANON KABUSHIKI KAISHA) 2 October 1996 (1996-10-02) page 7, lines 25-29; claims 1,4; examples 1-5	1-11
A	US 5 730 889 A (MIYAGAWA ET AL) 24 March 1998 (1998-03-24) claims 1-17	1-11
A	GB 2 152 223 A (* FUSION SEMICONDUCTOR SYSTEMS) 31 July 1985 (1985-07-31) claims 1-3	1-11

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP2005/012270

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1380422	A	14-01-2004	CN 1476977 A	25-02-2004
			JP 2004042389 A	12-02-2004
			TW 590898 B	11-06-2004
			US 2004070643 A1	15-04-2004
EP 1380425	A	14-01-2004	CN 1475350 A	18-02-2004
			JP 2004046217 A	12-02-2004
			TW 221122 B	21-09-2004
			US 2004131957 A1	08-07-2004
EP 0491560	A	24-06-1992	AT 158754 T	15-10-1997
			DE 69127801 D1	06-11-1997
			DE 69127801 T2	05-02-1998
			US 5331344 A	19-07-1994
EP 0734866	A	02-10-1996	DE 69603639 D1	16-09-1999
			DE 69603639 T2	13-04-2000
			US 6461798 B1	08-10-2002
US 5730889	A	24-03-1998	NONE	
GB 2152223	A	31-07-1985	DE 3443400 A1	27-06-1985
			JP 60185949 A	21-09-1985